

Appln. No. 09/744,681  
Amd. dated March 1, 2004  
Reply to Office Action of September 5, 2003

REMARKS

Applicants acknowledge and respectfully express thanks to Examiner Helen Pratt for the interview graciously granted on February 26, 2004, at which time agreement was reached as to entry of an amendment substantially the same<sup>1</sup> as presented above, and the patentability of the present invention. Present at such interview were Examiner Pratt, Mr. N. Ben-Yehuda, the first named inventor, and undersigned attorney of record. Attached is a copy of the "Interview Summary" prepared by Examiner Pratt.

Upon entry of the present amendment, the claims in the application will be only new claims 84-102, the previously pending claims being canceled. As agreement has been reached, applicants respectfully request officially favorable consideration, entry of the amendments presented above, and early formal allowance.

The new claims emphasize the treatment of potatoes, and call for inhibiting the sprouting of potatoes. Support appears throughout applicants' specification and can be found, for example, in line 6 of claim 1 (amended) as it appeared in the Reply filed January 15, 2003, with potatoes having been called for previously in claims 45 and 64, for example.

<sup>1</sup> There are some minor changes, including new dependent claims 92, 95-98 and 101.

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The maximum pH of 6, and preferably 4 (new claim 85) can be found for example at page 21 of applicants' specification, third paragraph from the bottom. This same paragraph also provides support for the specified acids.

Nitric acid was previously recited in original claim 14.

Support for the metallic ions is also found in various locations including page 21, second paragraph from the bottom as well as original claims 9-12. As regards the quantity of metallic ions, support for the range set forth in claim 84 is found for example in original claim 7, and support for the narrower range of claim 86 is to be found in the second paragraph on page 19 of applicants' specification.

Support for the terms "dry fog", "fumes" and "smoke" is to be found in original claims 40-42. Also, claim 42 provides support for the minimum particles size of the microdroplets whereas original claim 34 provides support for the maximum size of the microdroplets. The maximum particle size of the microdroplets as recited in claim 88 is to be found in original claims 39 and 40; and for claim 92 in original claim 37.

Maintaining a high relative humidity is to be found, for example, in the second paragraph on page 20 of applicants' specification.

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Fogging, as recited in claim 89 and 90, was previously called for in claims 79, 28 and 50-53.

The concentration of hydrogen peroxide as recited in claim 91 was previously called for in original claim 4 and is also found in the first paragraph on page 19 of applicants' specification.

Support for the length of storage as called for in  
claims 93 and 98 is found in line 4 of example 1 on page 22; and for claims 95 and 97 in example 18.

Intermittent treatment as called for in claims 93-98 is found in several locations including examples 1 and 2, with support for the intervals as called for in claims 93 and 95 being found in examples 19 and 20; also see original claims 3 and 4. The percentage recited in claims 97 and 98 is formed in example 1.

The temperature as recited in claims 94 and 96 can be found in example 19, line 4 of the first paragraph thereof.

Continuous treatment as called for in claim 99 appears in line 2 of original claim 5.

Claim 101 adds explicitly an inherent feature that the claimed process also inhibits rooting, support being found for example in the paragraph spanning pages 13 and 14 and in the preamble of original claim 1.

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Claim 102 is directed to the treatment of seed potatoes which is mentioned several times in applicants' specification, an important objective being to break epical dominance. For example, please see the fifth paragraph on page 11 of applicants' specification; line 4 of page 15; line 3 of page 17 and examples 17-11 and 18-20 on page 23-26.

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Claims 61-83 were rejected under the first paragraph of §112. As applicants propose to delete these claims by amendments presented above, applicants need not reply to this rejection<sup>2</sup>.

Claims 61-83 were rejected as obvious under §103 from Martin in view of Gomori. In addition, claims calling for the particle size of the microdroplets were similarly rejected as obvious under §103 from Martin in view Dalmasso. These rejections are respectfully traversed.

As noted above and in the "Interview Summary", agreement has been reached that the prior art does not make obvious applicants' invention as claimed above. However, to complete the record, applicants note as follows;

New main claim 84 focuses on inhibiting sprouting of

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<sup>2</sup> For the record, however, applicants believe that the phrase "free of hydrogen peroxide stabilizers" as that term is used in Gomori, appearing in applicants' claims 61 and 81, is supported by the examples.

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potatoes, which is an unobvious result. The applied prior art says nothing of inhibiting the sprouting of potatoes. Indeed, at least to some extent, the prior art suggested that the application of hydrogen peroxide to potatoes would "enhance sprout growth", noting the attachment from "Sprout Master". Applicants have flown in the face of the Sprout Master teaching and have highly surprisingly achieved exactly the contrary result, namely inhibition of sprouting of the potatoes. This is the antithesis of obviousness.

An important aspect of the present invention is the application of the hydrogen peroxide solution in the form of a dry fog, fumes, or smoke of microdroplets having a particle size of 0.001 to 100 microns. The microdroplets, not a vapor, contain not only the hydrogen peroxide itself, but also the acid and the metallic ions, and are persistent even at very high humidities, e.g. 95% plus, without any condensation of the stored potatoes. The following text appears in the second paragraph on page 20 of applicants' specification:

The application of the solution in the form of ultrasmall drops by solution atomizing systems that produce "dry" fogs..., has been found to provide particularly beneficial results. These include compensation for or prevention of water loss, inhibition of sprouting,.... [The microdroplets] facilitate the achievement of very high relative humidity, i.e., even as high as 99% +, without any condensation on the stored matter. Furthermore, the small particles show a very high penetrability into small

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cracks and spaces. As a consequence, even when the potatoes are stored in ordinary stacks or sacks, the "dry" fog storage has a high degree of penetrability and accessibility to all points in the stack or sack. This means that even in the simplest and most space compact facilities, stored plant matter, such as potatoes and similar items, can be effectively treated to prevent weight loss due to dehydration as well as softening and other deteriorative processes brought about by an inadequate humidity environment.

The importance of the microdroplet sizes is thus made clear in applicants' specification.

Neither Martin nor Gomori show anything similar.

The previous rejection relied upon Dalmasso, but Dalmasso is fundamentally deficient. First, Dalmasso produces a hydrogen peroxide vapor, i.e. a gas rather than microdroplets. Of course, Dalmasso does not suggest the incorporation of metallic ions, and applicants doubt that the Dalmasso vapor, i.e. a gas, could include the metallic ions which are essential according to the present invention. Thus, Dalmasso and Gomori are inconsistent and cannot be reasonably combined without the destruction of one or the other and a consequent further deviation from anything similar to the present invention.

Moreover, Dalmasso has a further contrary teaching to what is required according to the present invention. As noted during the aforementioned interview, and as pointed out

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at column 2, line 44 of Dalmasso, the Dalmasso sterilization system includes "dehumidification", a feature entirely contrary to the present invention. Thus, any incorporation of Dalmasso would by necessity result in a process not only different from, but also inconsistent with the present invention.

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Accordingly, it is clear that applicants' claims  
define nonobvious subject matter over the prior art, and that the rejection should be withdrawn as agreed during the aforementioned interview.

Attached is a copy of NZ 298824, an English language equivalent of Fr. 94 15 193, previously made of record. Its disclosure is no better than that of Gomori.

Favorable consideration, entry of the amendment presented above and early formal allowance are earnestly solicited.

Respectfully submitted,

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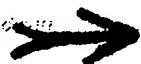
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use and prevention of  
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Benjamin Franklin



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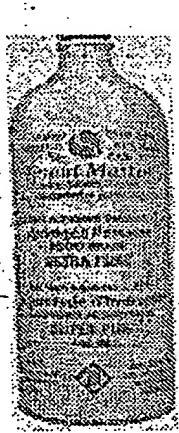
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